

L Number	Hits	Search Text	DB	Time stamp
1	90	@ad<19990831 and ("XOR" "exclusive-or" "exclusive or") and (key adj2 (transform\$7 expan\$5 exten\$5)) and constant	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:02
2	505	(380/44).CCLS.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:02
3	279	(380/29).CCLS.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:02
5	25	((380/44).CCLS.) and ((380/29).CCLS.)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:02
6	119	@ad<19990831 and ("XOR" "exclusive-or" "exclusive or") and (key adj2 (transform\$7 expan\$5 exten\$5)) and (shift\$3 rotat\$3)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:03
8	1	((("5442705").PN.) and (shift\$3 rotat\$3)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:20
9	71	@ad<19990831 and ("XOR" "exclusive-or" "exclusive or") and (key adj2 (transform\$7 expan\$5 exten\$5)) and (shift\$3 rotat\$3) and (substitut\$3 "s-box" "s-boxes")	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:04
10	0	(shift\$3 rotat\$3) near (relatively adj prime)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:20
11	0	(shift\$3 rotat\$3) and (relatively adj prime)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:20
12	0	relatively adj prime	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:20
13	316	relative\$3 adj2 prime	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:20
14	222	relative\$3 adj prime	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:21
15	222	relative\$2 adj prime	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:21
16	0	relatively adj prime	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 14:21
17	0	"relatively prime"	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 15:04
18	6	"relatively prime"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/02/26 15:19

21	84	"des" and (key adj expansion)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/02/26 15:20
22	45	"des" same (key adj expansion)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/02/26 15:20
19	7	"des" near (random adj3 generator)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/02/26 15:20
7	1	("5442705").PN.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 15:32
24	4111	(substitut\$3 "s-box" "s-boxes") near (" same" common)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 15:53
28	2947	((substitut\$3 "s-box" "s-boxes") near (" same" common)) and @ad<19990831	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 15:50
29	203	((substitut\$3 "s-box" "s-boxes") near (" same" common)) and @ad<19990831) and (sharing shared share)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 15:53
32	9	((substitut\$3 "s-box" "s-boxes") near (" same" common)) and @ad<19990831) and (sharing shared share)) and (380/\$.ccls.)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 15:52
33	23	@ad<19990831 and ((substitut\$3 "s-box" "s-boxes") near ( sharing shared share "same" common)) and (random near generat\$3)	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 15:55
34	1	(OOMORI and MOTOJI).in.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 15:56
35	52	(OhMORI and MOTOJI).in.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 15:56
36	25	(OhMORI and MOTOJI).in. and (toshiba matsushita).as.	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 16:00
37	13	((OhMORI and MOTOJI).in. and (toshiba matsushita).as.) and @ad<20000831	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 16:09
38	1	"EP 874496 A2"	USPAT; US-PGPUB; EPO; JPO; IBM_TDB	2004/02/26 16:10


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... bit **rotate** left - otherwise: two-bit **rotate** left - permutation ... ETH Zurich, 1991

- similar to **DES**: 64 bit ... 16 IDEA **Key Expansion** - 128-bit key 52 16-bit keys ...

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... bit **rotate** left - otherwise: two-bit **rotate** left - permutation ... ETH Zurich, 1991

- similar to **DES**: 64 bit ... for  $\frac{3}{4}$   $\frac{1}{2}$  Slide 15 IDEA **Key Expansion** - 128-bit ...

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... keys • Stronger & faster than Triple-**DES** • Active life ... AES **Key Expansion** •

Takes 128-bit (16-byte) key and ... every 4 th has S-box + **rotate** + XOR constant ...

[www-courses.cs.uiuc.edu/~cs397pgn/lectures/AES.pdf](http://www-courses.cs.uiuc.edu/~cs397pgn/lectures/AES.pdf) - [Similar pages](#)

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... stronger & faster than Triple-**DES**. ... AES Round. AES **Key Expansion**. ... every 4th has S-box + **rotate** + XOR constant of previous before XOR together. ...

[security.ece.orst.edu/koc/ece478/ws/slides/ch05.ppt](http://security.ece.orst.edu/koc/ece478/ws/slides/ch05.ppt) - [Similar pages](#)

[PS] The MARS Encryption Algorithm Carolynn Burwick c , Don Coppersmith ...

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... Our C implementation of the **key expansion** procedure sets up ... As a basis for comparison,

a typical **DES** implementation is ... odd integer) into R and then **rotate** R by ...

[www.research.ibm.com/security/mars-short.ps](http://www.research.ibm.com/security/mars-short.ps) - [Similar pages](#)

An Overview of the Hasty Pudding Cipher Rich Schroeppel & Hilarie ...

... by the operations that add, shift, and **rotate**, because the ... The cipher key controls the **key expansion** table at the ... a "step" is similar to a **DES** "round") that ...

[www.cs.arizona.edu/~rcs/hpc/hpc-overview](http://www.cs.arizona.edu/~rcs/hpc/hpc-overview) - 19k - [Cached](#) - [Similar pages](#)

[PDF] Microsoft PowerPoint - lect07.ppt

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... Fall 2003/Lecture 7 21 **Key Expansion** RotWord([byte0, byte1, byte2 ... Speed: faster than DES in software. ... Every time more subkeys are needed, **rotate** left the key 25 ...  
www.cs.purdue.edu/homes/ninghui/courses/ Spring04/lectures/lect07.pdf - Similar pages

[PDF] Lecture 6: Two Fish on the Rijndael Menu Breaking Grades File ...

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... for S-boxes kept secret • Many good choices – **DES**: only one ... of key bytes:  $b(16, 24, \text{ or } 32)$  • **Key Expansion**: – Produces array  $S$  ...  $n$  means **rotate** left by ...

[www.cs.virginia.edu/~evans/cs588/lectures/lecture6.pdf](http://www.cs.virginia.edu/~evans/cs588/lectures/lecture6.pdf) - Similar pages

[PDF] Hardware Evaluation of the AES Finalists

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... Twofish, Mars and RC6 are slower than Triple-DES. ... 4-bit input/output, logical and rotate shifts, and ... Decrypti on logic Output registers **Key Expansion** logic Su ...

csrc.nist.gov/encryption/aes/round2/ conf3/papers/15-tichikawa.pdf - Similar pages

## [PPT] Testing in the Fourth Dimension

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... Stronger & faster than Triple-DES. ... CSE565: S. Upadhyaya. Lec 9.15. AES Key Expansion. ... every

4th has S-box + **rotate** + XOR constant of previous before XOR together. ...

www.cse.buffalo.edu/faculty/shambhu/ cse56503/lectures/lec-09-aes.ppt - Similar pages

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"key expansion" rotate DES

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Searched the web for key (XOR OR "exclusive-or") (substitution OR "s-box") expansion (rotate OR rotation)

### HandyTrac Key Control

[www.handytrac.com](http://www.handytrac.com) All the Security you need at a price you can afford!

Sponsored Link

### The Dogfish Page

... transformation and is also performed, in combination with **substitution**, during **key**

**expansion** ... The Add Round **Key** transformation is performed by **XOR**'ing the ...

[www.datacrime.org/](http://www.datacrime.org/) - 22k - [Cached](#) - [Similar pages](#)

### BletchleyPark.net

... This operation consists of **substitution** boxes which specifies how each ... 192 or 256

bits and a complex **key expansion** process ... The **Xor**-ing of the sub-key before the ...

[www.bletchleypark.net/crypt/aes.html](http://www.bletchleypark.net/crypt/aes.html) - 20k - [Cached](#) - [Similar pages](#)

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... **XOR** constant of previous before **XOR** together • Designed ... step – with a different

**key** schedule • Works ... is unchanged when – swap byte **substitution** & shift ...

[www-courses.cs.uiuc.edu/~cs397pgn/lectures/AES.pdf](http://www-courses.cs.uiuc.edu/~cs397pgn/lectures/AES.pdf) - [Similar pages](#)

### [PDF] AEES-Alex Ernst Encryption Standard

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... 2. **Substitution** choice ... **S-box** S and it's inverse S -1 are applied in the law of ... bytes

of 8 in **XOR-Key** dwordS2 - second 4 bytes of 8 in **XOR-Key** dwordP2 - second ...

[www.alex-encryption.de/DES\\_Cube\\_PRNG.pdf](http://www.alex-encryption.de/DES_Cube_PRNG.pdf) - [Similar pages](#)

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... every 4th has **S-box** + **rotate** + **XOR** constant of previous before **XOR** together. ... with

a different **key** schedule. ... swap byte **substitution** & shift rows. ...

[security.ece.orst.edu/koc/ece478/ws/slides/ch05.ppt](http://security.ece.orst.edu/koc/ece478/ws/slides/ch05.ppt) - [Similar pages](#)

### From: pgut01@cs.auckland.ac.nz (Peter Gutmann) Newsgroups:

sci. ...

... 2. Bitwise **exclusive OR**, denoted by ... random binary words determined by the user's secret

**key** K. Initialising ... ciphertext contents of Beale Cipher No.1 **XOR**'d with ...

[www.funet.fi/pub/crypt/cryptography/symmetric/rc2/comments/gutman-960211-10k](http://www.funet.fi/pub/crypt/cryptography/symmetric/rc2/comments/gutman-960211-10k) - [Cached](#) - [Similar pages](#)

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... IDEA primitive operations.  $\oplus$  exclusive OR + addition mod 216 and x multiplication

See your message here...

mod 216+1. ... **XOR. Octet-Substitution (S-box)** (see Figure 3-24). ... **Key Expansion.** ...

[www.cs.odu.edu/~mukka/cs772s04/slides/chapter3.ppt](http://www.cs.odu.edu/~mukka/cs772s04/slides/chapter3.ppt) - Similar pages

```
<html> <head> </head><body><pre>&lt;html&gt; &lt;head&gt; &lt; ...
```

... 2. Bitwise **exclusive OR**, denoted by  $\oplus$  ... binary words determined by the user's secret **key** **K**. Initialising the **S-box** RRC.2 ...

[www.mirrors.wiretapped.net/security/cryptography/algorithms/rc2/comments/gutman-960211-11k - Cached](http://www.mirrors.wiretapped.net/security/cryptography/algorithms/rc2/comments/gutman-960211-11k-Cached) - Similar pages

```
<html> <head> </head><body><pre>&lt;html&gt; &lt;head&gt; &lt; ...
```

```
... register Long r; /* Data value R(i-1) */ Long k; /* Key K(i) */ { Long a, b, c;
```

```
/* 32 bit S-box output, & ... P output */ a = r ^ k; /* A = R(i-1) XOR K(i ...
```

[www.mirrors.wiretapped.net/security/cryptography/ algorithms/loki/loki89.c](http://www.mirrors.wiretapped.net/security/cryptography/ algorithms/loki/loki89.c) - 13k - [Cached](#) - [Similar pages](#)

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[PS] The MARS Encryption Algorithm Carolynn Burwick c , Don Coppersmith ...

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... We denote by  $cA^*da$  bitwise **exclusive-or** of the two words  $c$  ... We then multiply the second **key** word (constrained to contain ... Then we **xor**  $R$  into  $L$ , and also view the ...

[www.research.ibm.com/security/mars-short.ps](http://www.research.ibm.com/security/mars-short.ps) - Similar pages

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key (XOR OR "exclusive-or") (sub

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